

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
**LOG-CR8-0.84**  
**LOG-TR131-0.06**  
PERRY TOWNSHIP  
LOGAN COUNTY

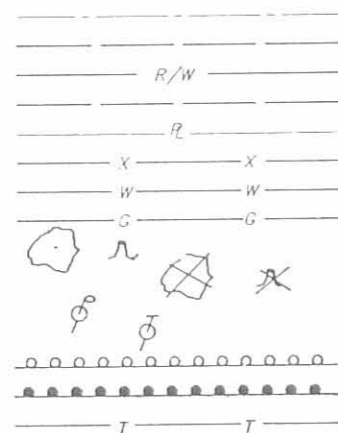
BRZ-4609(1)

FED. AID PROJ. NO. 4635	F.H.W.A. REGION 5	STATE OHIO	PROJECT
STATE PROJECT NO. 07694(0)			

LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06  
(RIGHT-OF-WAY ONL)

CONVENTIONAL SIGNS

Center Line  
Existing R/W  
Proposed R/W  
Temporary Easement  
Property Line  
Fence Line  
Water Line  
Gas Line  
Trees & Stumps  
Trees & Stumps (to be removed)  
Power Pole  
Telephone Pole  
Existing Guardrail  
Proposed Guardrail  
Existing Buried Telephone Cable

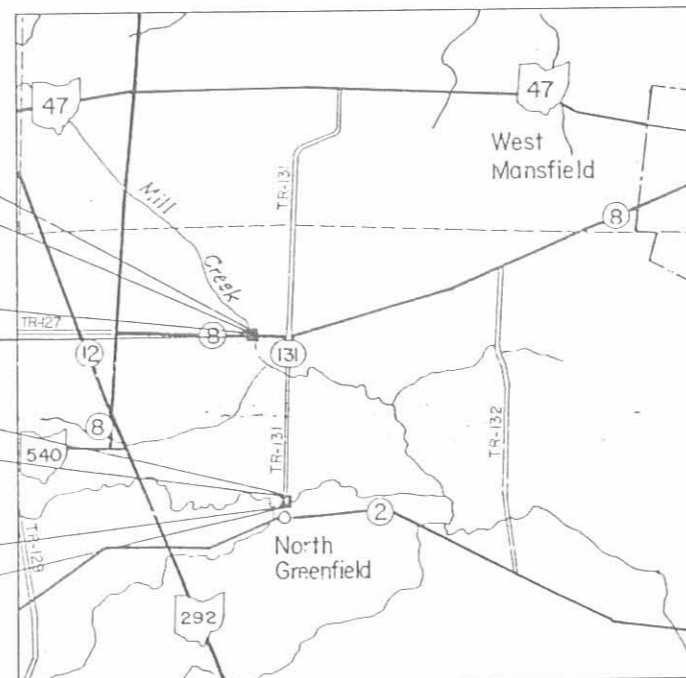


Suspend Project  
Sta. 71+95.00

Begin Project  
Sta. 65+05.00

End Project  
Sta. 6+37.50

Resume Project  
Sta. 3+50.00



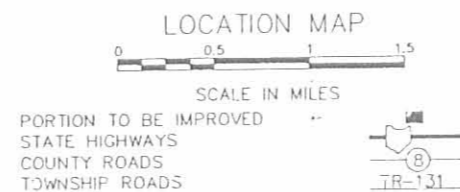
Acquiring Agency: Logan County, Ohio

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Assistant Deputy Director, Real Estate Administration

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Director, Department of Transportation

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LOG TR131 Summary & Details .....	3



FILE NUMBER	LOGAN COUNTY LOG-CR8-0.84 LOG-TR131-0.06
DATE OF LETTING	_____
CONTRACT NUMBER	_____

PLANS PREPARED BY  
KORDA/NEMETH ENGINEERING, INC.  
CONSULTING ENGINEERS  
1650 WATERMARK DR.  
SUITE 200  
COLUMBUS, OHIO  
FOR  
THE STATE OF OHIO

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED \_\_\_\_\_  
DIVISION ADMINISTRATOR

DATE \_\_\_\_\_

L-69

L-69

LOGAN COUNTY  
LOG-CR 8-0.84

GENERAL INFORMATION

Drive Sample/Press Sample/Core Boring

Drive sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampling device 18 inches is considered the standard penetration test.

Drive/press sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, and 3" O.D. thin wall press sampling device. The press sampler is advanced by continuous uniform pressure, applied by the drilling machine.

Core borings are made by means of a mechanically-powered rotary-type drilling machine, employing HQ core barrel with industrial diamond cutting head.

The boring log sheets display a graphic plot of the information obtained, including depth and elevation of the sample, type of sample, the standard penetration test readings in three 6-inch increments, depth and elevation of press samples, field number assigned to sample, sample description based on laboratory tests utilizing the Casagrande AC classification system and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing, if performed on undisturbed samples, will appear graphically on separate enclosures. Rock samples are displayed on the log sheets including depth and elevation of the sample, amount of recovery and a visual classification based on type, color, degree of hardness, grain size, deterioration, bedding acid reaction and other qualifying factors.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be utilized, a wash sample is procured and visually classified, in order to determine the general characteristics of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

GEOLOGY OF THE SITE

THE SITE OF THE PROPOSED STRUCTURE LIES IN THE GLACIATED MISSISSIPPI VALLEY PLAIN OF WEST-CENTRAL OHIO, NEAR THE SOUTHERN FLANK OF THE BROADWAY MORaine.

THIN GLACIAL DEPOSITS OVERLIE SILURIAN AGE LIMESTONES AND DOLOMITES. THE SITE LIES ON THE EAST FLANK OF THE BELFONTAINE OUTLIER.

EXPLORATION

TWO DRIVE SAMPLE-CORE BORINGS WERE MADE BY MEANS OF HOLLOW STEM AUGERS POWERED BY A TRUCK MOUNTED, ROTARY DRILLING RIG. DRILLING WAS PERFORMED ON JUNE 9 AND JUNE 10, 1967.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORINGS DISCLOSED MEDIUM STIFF TO STIFF SILT/CLAY (A-4a, A-7-5) MATERIAL TO ELEVATION 1089.5 FEET IN TEST BORING #B-2 (EAST ABUTMENT) AND 1087.5 FEET IN TEST BORING #B-2 (WEST ABUTMENT). BELOW THIS LAYER, A VERY LOOSE TO MEDIUM DENSE LAYER OF GRANULAR MATERIAL (A-1-a, A-1-b) EXTENDED TO ELEVATION 1082.2 FEET IN TEST BORING #B-2 AND 1080.5 FEET IN TEST BORING #B-1. BENEATH THE TILL LAYER, SANDS AND GRAVELS WERE THEN FOUND TO THE TOP OF BEDROCK SURFACE ENCOUNTERED AT 18.0 FEET (ELEVATION 1076.7 FEET) IN TEST BORING #B-2 AND 19.2 FEET (ELEVATION 1077.3 FEET) TEST BORING #B-1.

BEDROCK CONSISTED OF LIMESTONES AND DOLOMITES WITH HIGHLY FRACTURED AND LEACHED ZONES. THE BEDROCK SURFACE ENCOUNTERED WAS RELATIVELY FLAT. ROCK WAS PENETRATED TO ELEVATION 1065.7 FEET IN TEST BORING #B-2 AND 1060.5 FEET IN TEST BORING #B-1.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- TR Top of Rock.
- Capped Pile.
- Footing.
- Footing on Pile.
- Darkened area on Boring Log indicates the depth the Sample was taken.
- Figures beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Tests. X= No. of Blows for First 6 inches, Y= No. of Blows for 2nd 6 inches, Z= No. of Blows for 3rd 6 inches.
- w Indicates Free Water Elevation.
- Indicates Static Water Elevation.
- Moisture Content of Non-Plastic Soil > 25%

SOIL LEGEND

CLASSIFICATION	DESCRIPTION	CLASSIFICATION
A-1-a	Gravel and/or Stone Fragments	A-1-a
A-1-b	Gravel and/or Stone Fragments with Sand	A-1-b
A-3	fine Sand	A-3
A-3a	Coarse and Fine Sand	A-3a
A-2-4 A-2-5	Gravel and/or Stone Fragments with Sand and Silt	A-2-4 A-2-5
A-2-6 A-2-7	Gravel and/or Stone Fragments with Sand, Silt and Clay	A-2-6 A-2-7
A-4a	Sandy Silt	A-4a
A-4b	Silt	A-4b
A-5	Elastic Silt and Clay	A-5
A-6a	Silt and Clay	A-6a
A-6b	Silty Clay	A-6b
A-7-5	Plastic Clay	A-7-5
A-7-6	Clay	A-7-6

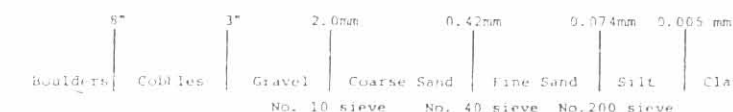
ROCK TYPES

	Coal		Weathered Sandstone
	Weathered Sandstone		Sandstone
	Limestone		Leached Dolomite
	Weathered Shale		Dolomite
	Shale		Leached Limestone
	Claystone		Limestone
	Siltstone		Boulders or Cobbles

ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SURFACE INVESTIGATION, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

PARTICLE SIZE DEFINITIONS

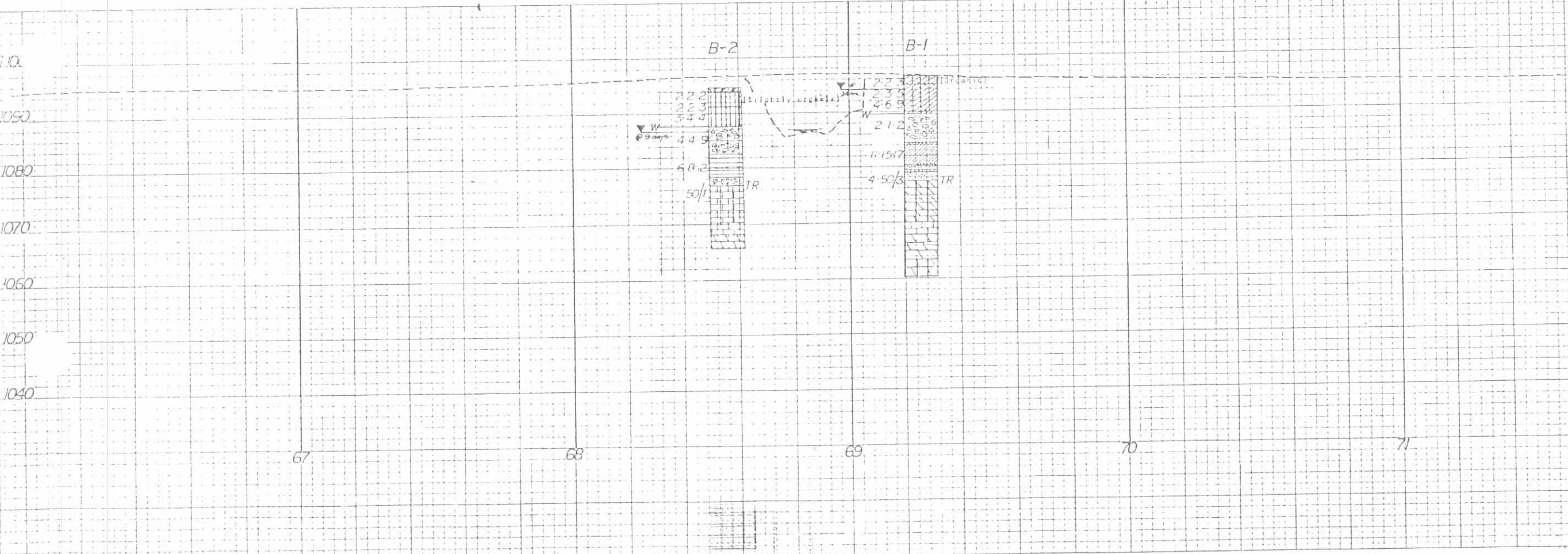
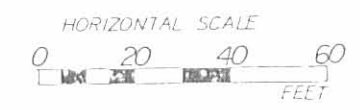
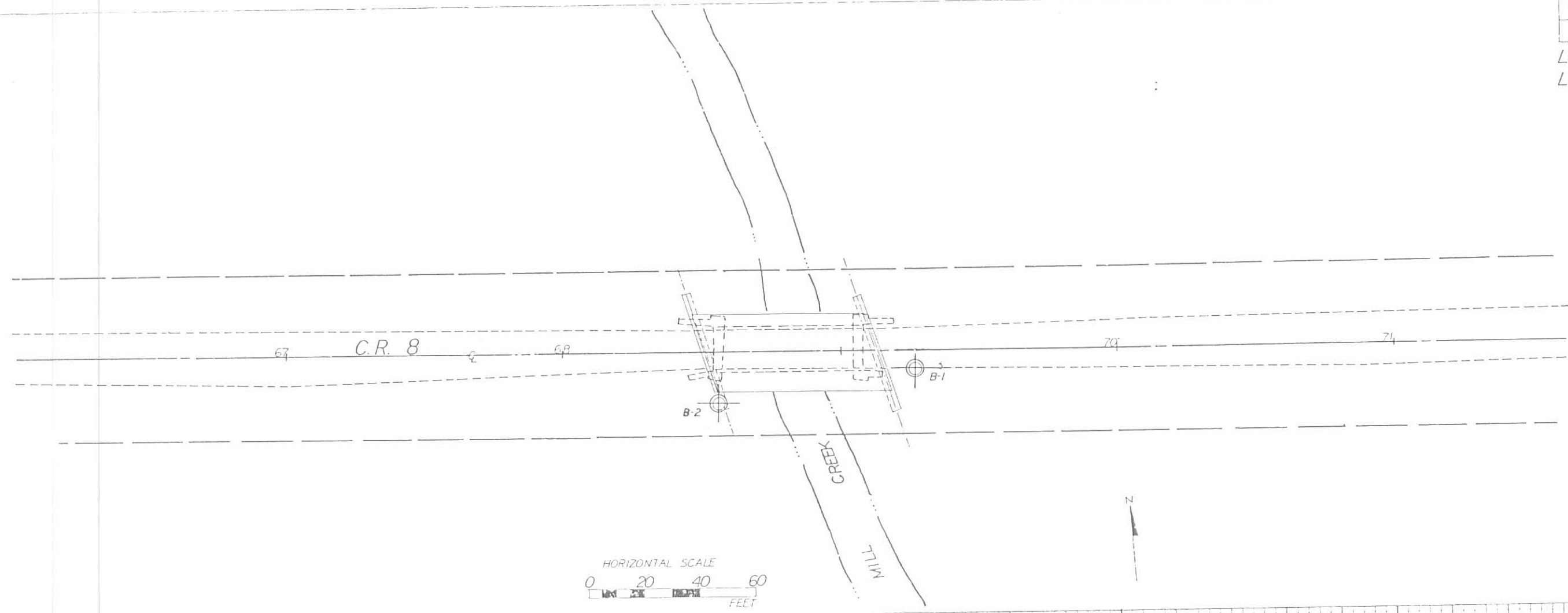


HIL ENGINEERING INC. CONSULTING ENGINEERS TESTING • INSPECTION LABORATORY SERVICES 2840 Fisher Road • Columbus, Ohio 43204 • 614-276-4173		
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO 8-092 LOGAN COUNTY		
CHECKED BY	REVIEWED BY	DATE

FEDERAL REGISTRY	STATE	COUNTY	
5	OHIO		

2  
3

LOGAN COUNTY  
LOG-CR 8-0.84



**ENGINEERING INC.**  
CONSULTING ENGINEERS  
TESTING • INSPECTION  
LABORATORY SERVICES

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. 8-0.92 LOGAN CO.

PLAN & PROFILE

CHECKED BY: [Signature] REVIEWED BY: [Signature] DATE: [Blank]



LOGAN COUNTY  
LOG-TR131-0.06

GENERAL INFORMATION

Drive Sample/Press Sample/Core Borings

Drive sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampling device 18 inches is considered the standard penetration test.

Drive/press sample borings are made by means of a mechanically-powered rotary-type drilling machine, employing a 2" O.D., 1-3/8" I.D. split spoon sampling device, and 3" O.D. thin wall press sampling device. The press sampler is advanced by continuous uniform pressure, applied by the drilling machine.

Core borings are made by means of a mechanically-powered rotary-type drilling machine, employing HQ core barrel with industrial diamond cutting head.

The boring log sheets display a graphic plot of the information obtained, including depth and elevation of the sample, type of sample, the standard penetration test readings in three 6-inch increments, depth and elevation of press samples, field number assigned to sample, sample description based on laboratory tests utilizing the Casagrande AC classification system and gradation, plasticity and moisture content determinations. Results of strength and consolidation testing, if performed on undisturbed samples, will appear graphically on separate enclosures. Rock samples are displayed on the log sheets including depth and elevation of the sample, amount of recovery and a visual classification based on type, color, degree of hardness, grain size, deterioration, bedding acid reaction and other qualifying factors.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be utilized, a wash sample is procured and visually classified, in order to determine the general characteristics of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

GEOLOGY OF THE SITE

THE SITE OF THE PROPOSED STRUCTURE LIES IN THE GLACIATED MISSISSIPPI VALLEY FLAIN OF WEST-CENTRAL OHIO, NEAR THE SOUTHERN FLANK OF THE BROADWAY MORIANE.

THIS GLACIAL DEPOSITS OVERLIE SILURIAN AGE LIMESTONES AND POLONITES. THE SITE LIES ON THE EAST FLANK OF THE BELFONTAINE OUTCROP.

EXPLORATION

TWO DRIVE SAMPLE-CORE BORINGS WERE MADE BY MEANS OF HOLLOW STEM AUGERS POWERED BY A TRUCK MOUNTED ROTARY DRILLING RIG. DRILLING WAS PERFORMED ON JUNE 10, 1957.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORINGS INDICATE 6-8 INCHES OF CINDER FILL AT EACH BORING LOCATION. BENEATH THE FILL, SOFT TO MEDIUM STIFF SANDY SILTS AND SILTY CLAYS (A-4a, A-6a) CONTAINING OUTWASH LAYERS (A-1-a) EXTEND TO ELEVATION 1090 TO 1092 FEET. BELOW THESE ELEVATIONS, SOFT TO MEDIUM STIFF SILT EXTENDS TO ELEVATION 1074 FEET IN BORING B-2 (FORWARD ABUTMENT) AND 1079 FEET IN BORING B-1 (REAR ABUTMENT). OUTWASH DEPOSITS THEN OVERLIE THE BEDROCK, ENCOUNTERED AT ELEVATION 1077.4 FEET IN BORING B-1 AND 1071.6 FEET IN BORING B-2.

FREE WATER WAS ENCOUNTERED AT ELEVATIONS 1078.9 FEET IN BORING B-1 AND 1090.6 FEET IN BORING B-2. WATER LEVEL IN B-1 AT 9 DAYS WAS 1092.7 FEET. AN ARTESIAN CONDITION WAS FOUND IN B-2 UPON DRILLING COMPLETION AND AFTER 9 DAYS.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- TR** Top of Rock
- Capped Pile
- Piling
- Piling on Pile
- Darkened area on Boring Log indicates the depth the Sample was taken.
- X-Y-Z** Figures beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Tests. X= No. of Blows for First 6 inches, Y= No. of Blows for 2nd 6 inches, Z= No. of Blows for 3rd 6 inches.
- Indicates Free Water Elevation.
- Indicates Static Water Elevation.
- Moisture Content of Non-Plastic Soil > 25%

SOIL LEGEND

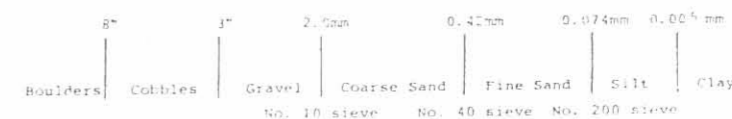
CLASSIFICATION

- Gravel and/or Stone Fragments A-1-a
- Gravel and/or Stone Fragments with Sand A-1-b
- Fine Sand A-2
- Coarse and Fine Sand A-3a
- Gravel and/or Stone Fragments with Sand and Silt A-2-4  
A-2-5
- Gravel and/or Stone Fragments with Sand, Silt and Clay A-2-6  
A-2-7
- Sandy Silt A-4a
- Silt A-4b
- Elastic Silt and Clay A-5
- Silt and Clay A-6a
- Silty Clay A-6b
- Elastic Clay A-7-5
- Clay A-7-6

ROCK TYPES

- Coal
- Weathered Sandstone
- Weathered Shale
- Limestone
- Weathered Dolomite
- Dolomite
- Weathered Shale
- Shale
- Leached Limestone
- Chert
- Limestone
- Siltstone
- Sandstone
- Bedrock or Boulders

PARTICLE SIZE DEFINITIONS



ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE INVESTIGATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATION, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

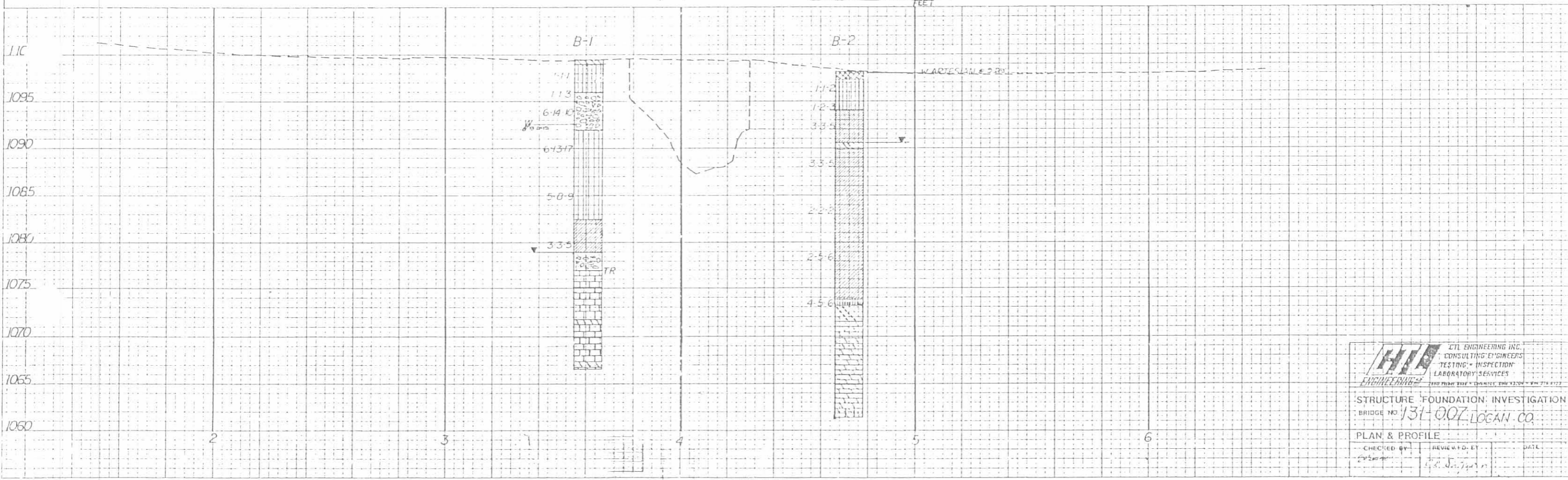
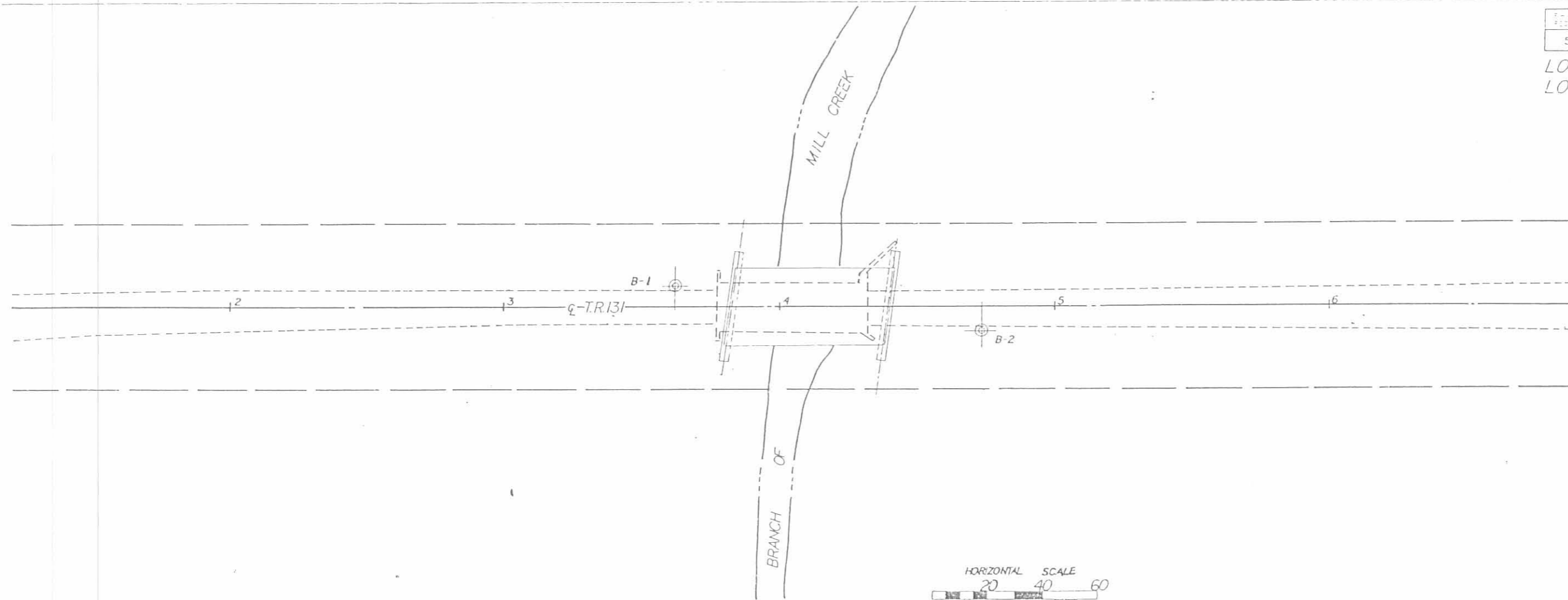
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CIVIL ENGINEERING INC. CONSULTING ENGINEERS TESTING • INSPECTION LABORATORY SERVICES 2840 Fisher Road • Columbus, Ohio 43204 • 614-776-4122		
STRUCTURE FOUNDATION INVESTIGATION BRIDGE NO. 131-007 LOGAN COUNTY		
CHECKED BY	REVIEWED BY	DATE

DATE	STATE	PROJECT
5	OHIO	

2  
3

LOGAN COUNTY  
LOG-TR131-0.06



**HIA** ENGINEERING INC.

CONSULTING ENGINEERS  
TESTING • INSPECTION  
LABORATORY SERVICES

1000 PINE ST. • CANTON, OHIO 44704 • PH 278-8722

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. 131-007 LOGAN CO.

PLAN & PROFILE

CHECKED BY C. J. ...	REVIEWED BY C. J. ...	DATE ...
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PLATE A. CHOLE PLAN AND PROFILE SECTION

LOGAN COUNTY  
LOG-TR131-0.06

**LOG OF BORING**

Date Started: 10-10-87    Date Completed: 10-10-87    Boring No.: 1-1 Station: Offset 1.4 ft. R. 7.0' E.

Sample Type: S-5    Dia: 3/8"    Water Flow: Artesian    Water at Corp.: 1098.2'    Water Level at 2.4' dia: 1097.7'    Station: 131-0.07

ELEV. Depth	Soil, etc.	DESCRIPTION	Sample No.	Moisture	Specific Gravity	Wet Density	Dry Density	Void Ratio	Porosity	SHTL Class	Visual
1099.4	0	Cinder Fill		0.5'							
1098.9	1-1-1	Brown Sandy, SILT	S-1							18	Visual
1095.9	1-1-3	Brown Sandy, SILT	S-2	9.33	16	33	9	22	1	16	A-4a
1091.8	6-14-10	Brown Gravel w. Cobbles	S-3	66	16	8	0	NP	NP	6	A-1-a
1087.8	6-13-17	Gray, Sandy, Silty, CLAY	S-4	9.42	4	16	29	32	4	18	A-4a
1082.4	5-8-9	Gray, Sandy, Silty, CLAY	S-5							14	Visual
1078.9	3-3-5	Gray, Sand, Silty, CLAY	S-6	8.28	5	13	46	40	15	24	A-6a
1073.4		Gray, SAND AND GRAVEL		20.5'							
1072.1		Cone 23'-24' Core Loss at Limestone, Light Gray, Slightly Leached, Moderately weathered, moderately fractured, 1 to 3 inch beds									
1072.2		Dolomite, Light to Dark Gray, Slightly weathered, Very fractured									
1071.3		Limestone, Light to Dark Gray, Very Shaley, Fracture Zone 29.1' to 29.6'									
1067.2		Dolomite, Gray, Firm, Vertical Fractures 1 to 3 inch beds									

Bottom of Boring

**LOG OF BORING**

Date Started: 1-10-87    Date Completed: 6/10/87    Boring No.: B-2 Station: Offset 4.4 ft. R. 7.0' E.

Sample Type: S-5    Dia: 3/8"    Water Flow: Artesian    Water at Corp.: 1090.6'    Water Level at 2.4' dia: Artesian    Station: 131-0.07

ELEV. Depth	Soil, etc.	DESCRIPTION	Sample No.	Moisture	Specific Gravity	Wet Density	Dry Density	Void Ratio	Porosity	SHTL Class	Visual
1098.1	0	Cinder FILL		8.0'							
1097.4	2-1-2	Brown, Sandy SILT with Gravel	S-1							17	Visual
1094.1	2-2-3	Brown, Sandy SILT with Gravel	S-2	22	20	70	38	0	26	6	A-4a
1090.6	3-3-5	Brown, Clayey SILT, with Fine Sand	S-3	1	3	20	43	33	38	13	A-6a
1088.8	3-3-5	Brown, SAND AND GRAVEL		7.5'							
1087.8	3-3-5	Gray, Silty CLAY	S-4							24	Visual
1082.4	2-2-2	Gray, Silty CLAY	S-5	16	13	5	27	42	37	11	A-6a
1078.9	2-5-6	Gray, Silty CLAY	S-6							13	Visual
1073.8	4-5-6	Gray, Sandy, SILT with Gravel	S-7	25	26	13	20	16	27	5	A-4a
1072.1		SAND AND GRAVEL with cobbles and boulders		25.0'							
1071.6		Core loss zone, Dolomite, Dark Gray, Very fractured, massive									
		Limestone, Light to Dark Gray, Very Shaley, Fractured									
		Dolomite, Light to Dark Gray, Massive, 0.5 to 1 inch beds, Leached 35.7' to 37.0'									

Bottom of Boring

**CTL ENGINEERING INC.**  
CONSULTING ENGINEERS  
TESTING • INSPECTION  
LABORATORY SERVICES  
7180 Fishy Run • Columbus, Ohio 43224 • 614 276 4122

STRUCTURE FOUNDATION INVESTIGATION  
BRIDGE NO. 131-0.07 LOGAN CO

BORING DATA

CHECKED BY S. BURGESS	REVIEWED BY <i>[Signature]</i>	DATE
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STATE OF OHIO  
 DEPARTMENT OF TRANSPORTATION  
 LOG-CR8-0.84  
 LOG-TR131-0.06

BRZ-4609(1)

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

1/34

LOGAN COUNTY  
 LOG-CR8-0.84  
 LOG-TR131-0.06

1989 SPECIFICATIONS

The Standard Specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal, shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans

Approved \_\_\_\_\_  
 Date \_\_\_\_\_ Logan County Engineer

Approved Ronald B. Eynik P.E.  
 Date 1/28/91 District Deputy Director of Transportation

Approved \_\_\_\_\_  
 Date \_\_\_\_\_ Engineer, Bureau of Bridges and Structural Design

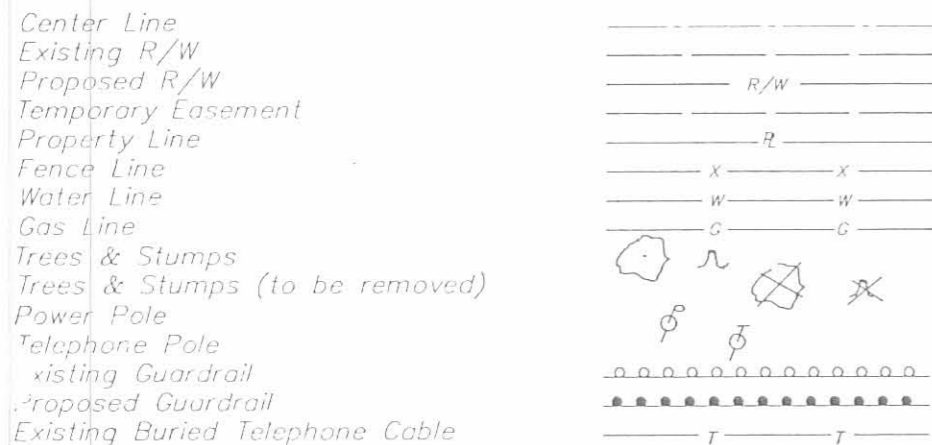
Approved \_\_\_\_\_  
 Date \_\_\_\_\_ Chief Engineer, Planning and Design

Approved \_\_\_\_\_  
 Date \_\_\_\_\_ Director, Department of Transportation

DESIGN DESIGNATION	CR8	TR131
Current ADT (1990)	280	200
Design ADT (2010)	340	240
DHV	34	24
D (directional distribution)	55%	55%
T (percent B & C trucks)	1%	1%
Design Speed	55 mph	55mph
Legal Speed	55 mph	55mph
Functional Classification	Rural Local	Rural Local

No Design Exceptions Required

CONVENTIONAL SIGNS



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General Notes	4,5
Calculations & General Summary	6
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Right-of-Way Plan	32-34

LINE DATA

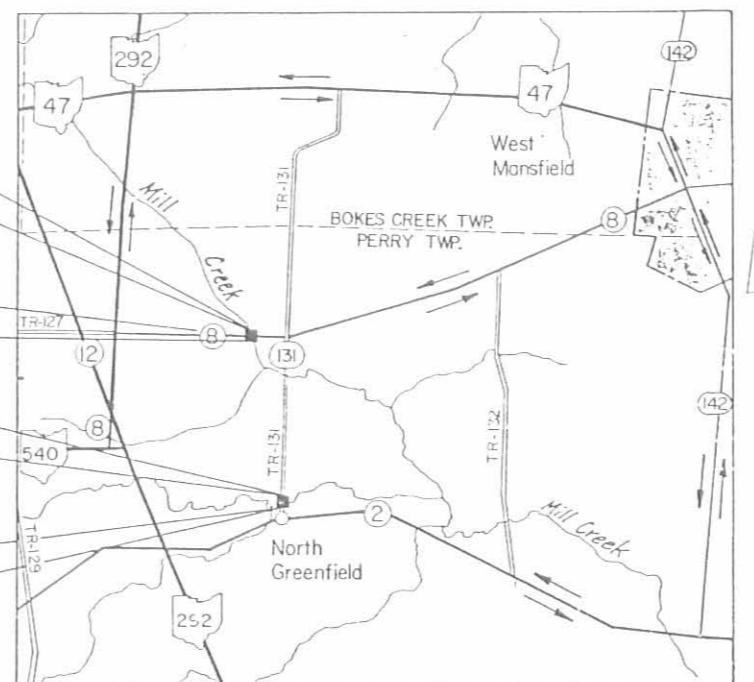
Begin Project	65+05.00	CR8
Suspend Project	71+95.00	"
Net Length of Project =	690.00 L.F.	
Resume Project	3+50.00	TR131
End Project	6+37.50	"
Net Length of Project =	287.50 L.F.	
Total Length of Project =	977.50 L.F. or 0.185 Mi.	
Begin Work	64+00.00	CR8
Suspend Work	72+75.00	"
Net Length of Work =	875.00 L.F.	
Resume Work	1+25.00	TR131
End Work	8+00.00	"
Net Length of Work =	675.00 L.F.	
Total Length of Work =	1550.00 L.F. or 0.294 Mi.	

UNDERGROUND UTILITIES

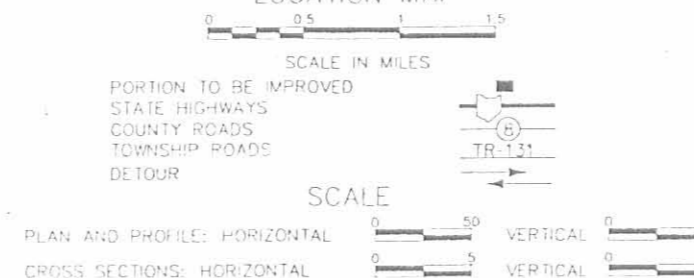
Two Working Days  
 BEFORE YOU DIG

Call 800-362-2764 (Toll free)  
 OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS  
 MUST BE CALLED DIRECTLY



LOCATION MAP



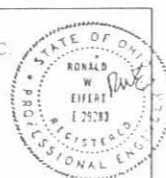
STANDARD DRAWINGS

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
BP-5	10-1-87	LA-1	6-1-79		
BP-6	10-1-87	AS-1-81	11-27-81		
CR-1	1-11-85				
CR-2B	2-5-82	DBR-2-73	4-10-73		
CR-3	10-25-90				
CR-4	2-5-82	PSBD-1-81	6-20-89		
MC-4	7-26-76				
MC-11	8-1-78				
MT-99	11-14-86				

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE
802	4-13-90
836	11-12-85
847	10-17-83
931	6-18-85
947	10-17-83

PLANS PREPARED BY  
 KORDA/NEMETH ENGINEERING, INC.  
 CONSULTING ENGINEERS  
 1550 WATERMARK DR.  
 SUITE 200  
 COLUMBUS, OHIO  
 FOR  
 THE STATE OF OHIO



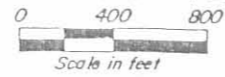
FILE NUMBER	LOGAN COUNTY LOG-CR8-0.84 LOG-TR131-0.06
DATE OF LETTING	
CONTRACT NUMBER	

DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED \_\_\_\_\_  
 DIVISION ADMINISTRATOR DATE



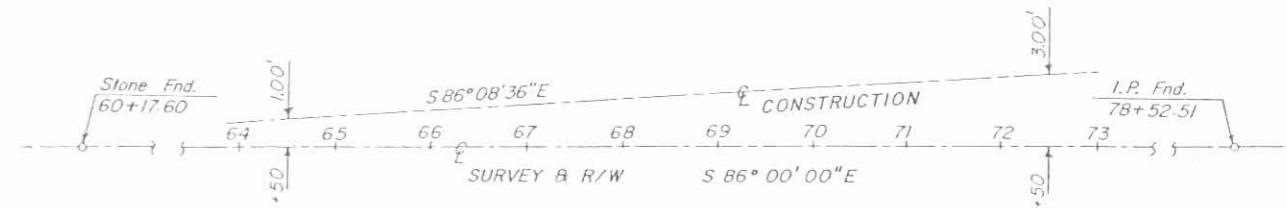
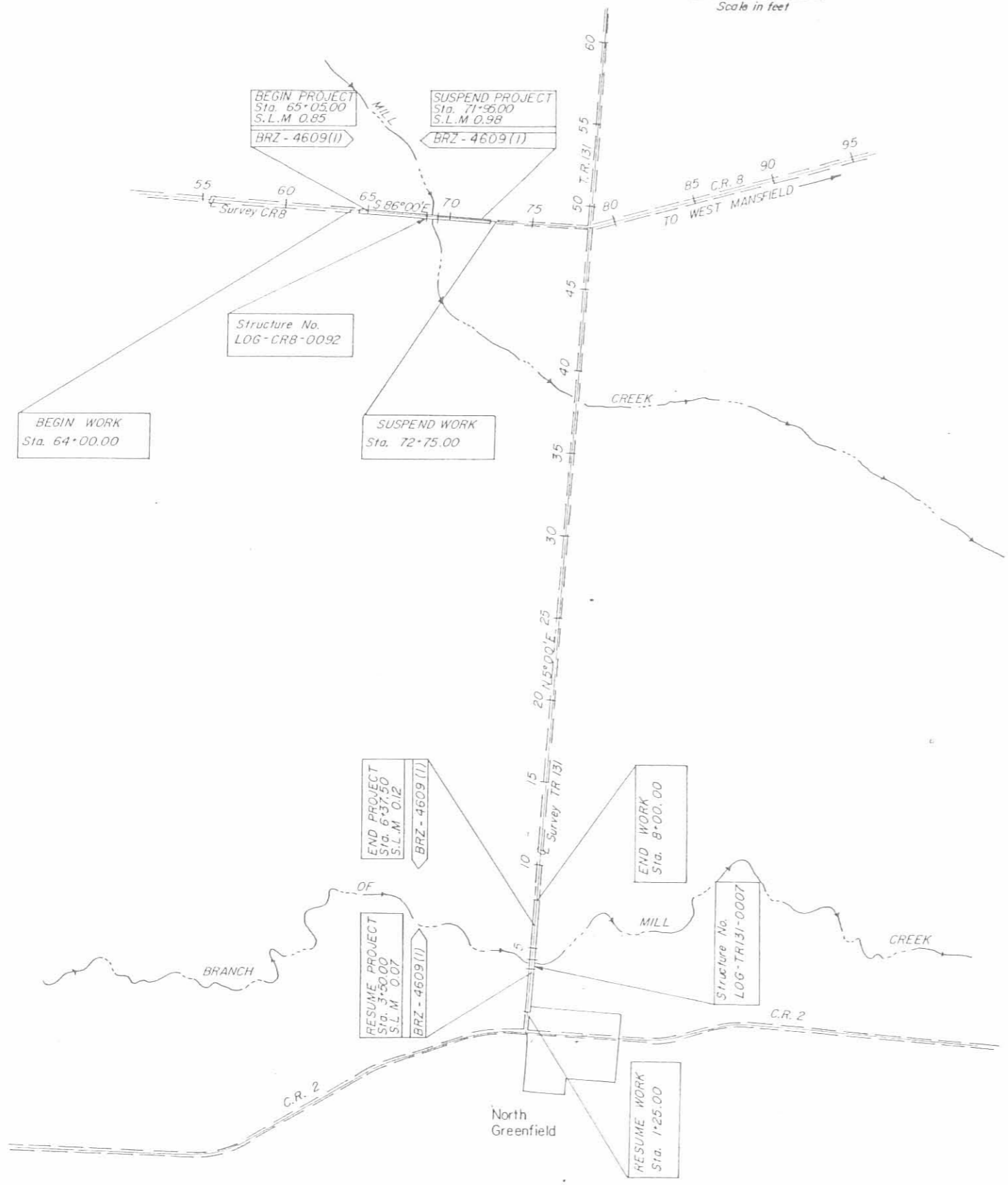
SCHMATIC PLAN



FEDERAL REGION	STATE	PROJECT
5	OHIO	

2  
34

LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06



# TYPICAL SECTIONS

TYPE 404 on 301

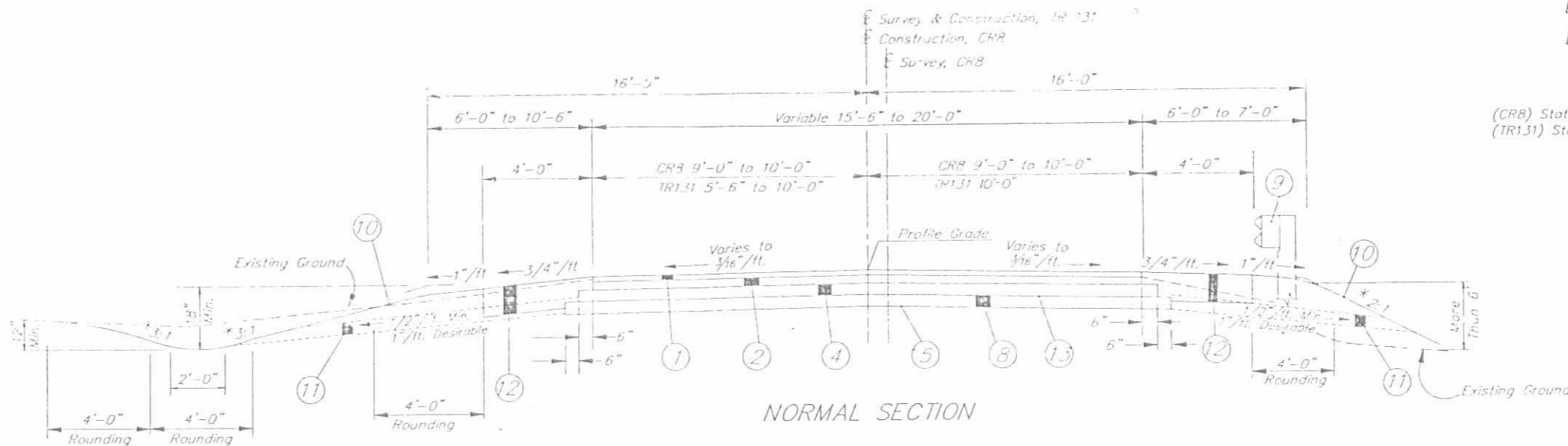
FEDERAL REGION	STATE	PROJECT	
5	OHIO		

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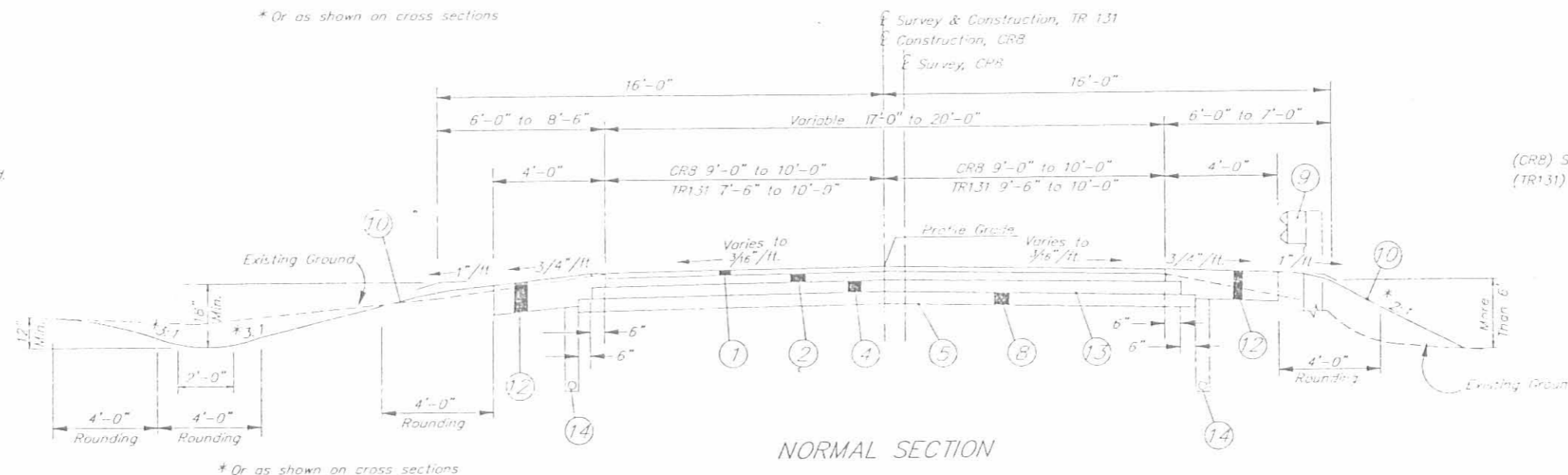
LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06

- ① 404 1 1/4" Asphalt Concrete, AC-20
- ② 402 1 3/4" Asphalt Concrete, AC-20
- ③ 403 2 3/4" to 1 3/4" Asphalt Concrete, AC-20
- ④ 301 3" Bituminous Aggregate Base, AC-20
- ⑤ 202 Sub-grade Compaction
- ⑥ 407 Tack Coat
- ⑦ 511 Reinforced Concrete Approach Slab (T=13')
- ⑧ 304 6" Aggregate Base, as per plan
- ⑨ 606 Guardrail, Type 5
- ⑩ 659 Seeding and Mulching (See General Note)
- ⑪ 605 Aggregate Drain
- ⑫ 304 8" Aggregate Base, as per plan
- ⑬ 408 Bituminous Prime Coat at 0.40 Gal. per Sq. Yd.
- ⑭ 605 6" Unclassified Type Underdrain, as per plan

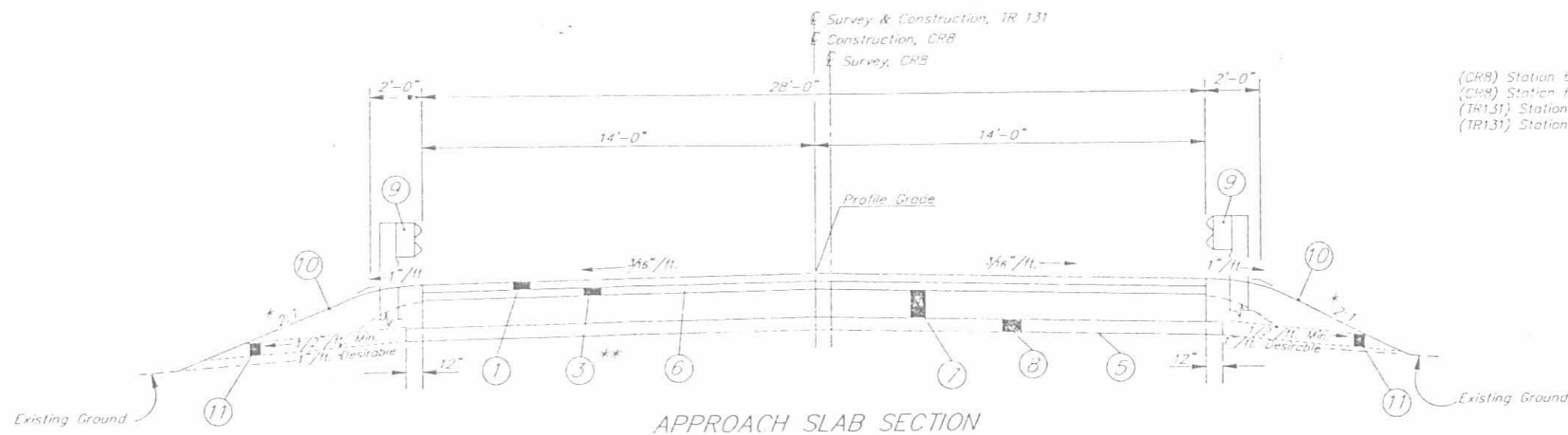
Note: Transition 403 Asphalt Concrete thickness from 2 3/4" at the bridge abutments to 1 3/4" at the pavement end of the approach slabs.



(CRB) Station 64+50.00 to Station 68+39.41 = 389.41 L.F.  
(TR131) Station 1+25.00 to Station 3+66.42 = 241.42 L.F.  
Total = 630.83 L.F.



(CRB) Station 69+32.59 to Station 72+50.00 = 317.41 L.F.  
(TR131) Station 4+55.58 to Station 7+75.00 = 319.42 L.F.  
Total = 636.83 L.F.



(CRB) Station 68+39.41 to Station 68+59.41 = 20.00 L.F.  
(CRB) Station 69+12.59 to Station 69+32.59 = 20.00 L.F.  
(TR131) Station 3+66.42 to Station 3+86.42 = 20.00 L.F.  
(TR131) Station 4+35.58 to Station 4+55.58 = 20.00 L.F.  
Total = 80.00 L.F.

BRIDGE NO. LOG-CR8-0092  
Station 68+59.41 to Station 69+12.59 = 53.18 L.F.

BRIDGE NO. LOG-TR131-0007  
Station 3+86.42 to Station 4+35.58 = 49.16 L.F.

# GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

4  
34

LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06

## 19 FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

## ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE SECTIONS.

## UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

## UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

UTILITY: LOGAN COUNTY COOPERATIVE POWER AND LIGHT  
P.O. BOX 279  
BELLEFONTAINE, OHIO 43311  
(513) 592-4781

TELEPHONE: UNITED TELEPHONE COMPANY OF OHIO  
127 NORTH MAIN STREET  
BELLEFONTAINE, OHIO 43311  
(513) 592-9279

## CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY, AND DESIGNATED BY PLAN NOTE TO BE USED AS DIRECTED BY THE ENGINEER, UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK QUANTITIES AND QUANTITIES IN THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER DURING COMPLETION OF THIS PROJECT.

## ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

## ITEM 201 CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES AND/OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 CLEARING AND GRUBBING. HOWEVER, THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED IN THE PLANS SHALL NOT BE REMOVED. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

## LOCATION OF GUARDRAIL

LOCATIONS OF GUARDRAIL RUNS AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL PROVIDE MAXIMUM PROTECTION FOR TRAFFIC.

## SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN (10) FEET FROM THE WORK LIMITS.

## WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED, AS DIRECTED BY THE ENGINEER, TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

ITEM 659 WATER 16 M. GAL.

## TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED, AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 STRAW OR HAY BALES 150 EACH

## CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO AN EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BIDS FOR THE PERTINENT 603 CONDUIT ITEMS.

## FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY ITEM 603 CONDUIT, TYPE F. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY ITEM 603 CONDUIT, TYPE E, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE, AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 6" CONDUIT, TYPE E 50 LIN.FT.  
ITEM 603 6" CONDUIT, TYPE F 50 LIN.FT.  
ITEM 603 8" CONDUIT, TYPE E 50 LIN.FT.  
ITEM 601 8" CONDUIT, TYPE F 50 LIN.FT.

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

## ITEM 605 AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE, AND AT THE OUTSIDE EDGE OF REINFORCED CONCRETE APPROACH SLABS AT THE PAVEMENT JOINT.

## EROSION CONTROL

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS, AND TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY. ALL DITCH EROSION PROTECTION SHALL BE PLACED AS SHOWN ON THE PLANS IMMEDIATELY AFTER THE FINAL DITCH CHANGING IS COMPLETED.

THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

## EROSION CONTROL PADS AND ANIMAL GUARDS

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS, AS PER STANDARD CONSTRUCTION DRAWING MC-4.

PAYMENT FOR THE EROSION CONTROL PADS AND THE ANIMAL GUARDS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 603 6" CONDUIT, TYPE F.

## CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE, RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

## ITEM 407 TACK COAT

THE RATE OF APPLICATION OF ITEM 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT, AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

## ITEM 304 AGGREGATE BASE, AS PER PLAN

MATERIALS FURNISHED FOR THIS ITEM SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG.

## JOINT SEALERS

ALL REFERENCES TO 705.01 OR 705.02 APPEARING ON STANDARD DRAWINGS OR ON THE PLANS SHALL BE CONSIDERED TO READ 705.04.

## MAINTENANCE OF TRAFFIC

### GENERAL

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614 MAINTAINING TRAFFIC EXCEPT THAT, FOR A PERIOD NOT TO EXCEED A TOTAL OF 120 CONSECUTIVE CALENDAR DAYS FOR BOTH PROJECTS, THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 1, PROVIDED THAT THE DETOUR NOT BE IN EFFECT FROM DECEMBER 1 THROUGH FEBRUARY 28.

### WINTER CLOSING LIMITATION

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN DECEMBER 1 AND FEBRUARY 28. THE DECEMBER 1 DATE SHALL BE CONSIDERED AN INTERIM COMPLETION DATE. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR EACH CALENDAR DAY BEYOND THE LIMITATIONS SET HEREIN THAT ALL LANES ARE NOT OPEN TO TRAFFIC.

## SIGN LOCATIONS

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN STANDARD R-75B "BRIDGE OUT" SIGNS, SUPPORTS, AND LIGHTS AT THE FOLLOWING LOCATIONS DURING THE PERIOD IN WHICH THE ROADS ARE CLOSED TO TRAFFIC:

CR.8 AT S.R.292 I.R. 131 AT CR.8  
CR.8 AT S.R.47

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN STANDARD R-75 "ROAD CLOSED" SIGNS ON TYPE III BARRICADES WITH FLASHING BARRICADE WARNING LIGHTS AT EVERY LOCATION WHERE THE ROADS ARE TO BE PHYSICALLY CLOSED TO TRAFFIC, AND STANDARD CR-120 "ROAD CLOSED AHEAD" SIGNS 500 FEET IN ADVANCE OF THE BARRICADES.

THE SIGNS, SUPPORTS, BARRICADES, AND LIGHTS MENTIONED ABOVE SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WEEKS NOTICE TO THE LOGAN COUNTY ENGINEER'S OFFICE PRIOR TO CLOSURE.

## PAYMENT

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING SIGNS, SUPPORTS, BARRICADES, AND LIGHTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC. PAYMENT FOR ANY ADDITIONAL SIGNS AND/OR BARRICADES REQUIRED TO PROVIDE CLARITY TO THE TRAFFIC MAINTENANCE SCHEMATIC SET FORTH IN THE PLANS OR THE DETOUR, OR PAYMENT FOR ANY SIGNS AND/OR BARRICADES WHICH REQUIRE RELOCATION TO PROVIDE CLARITY AS DIRECTED BY THE ENGINEER, SHALL ALSO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

IN ADDITION, THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC:

ITEM 614 TEMPORARY CENTER LINES, CLASS II 0.27 MI.  
ITEM 615 CALCIUM CHLORIDE 2 TON  
ITEM 616 WATER 5 M.GAL.

## SOFT SUBGRADE

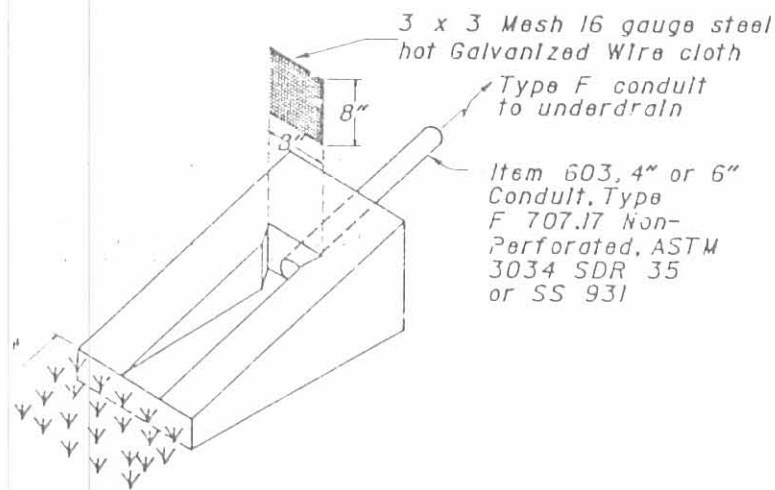
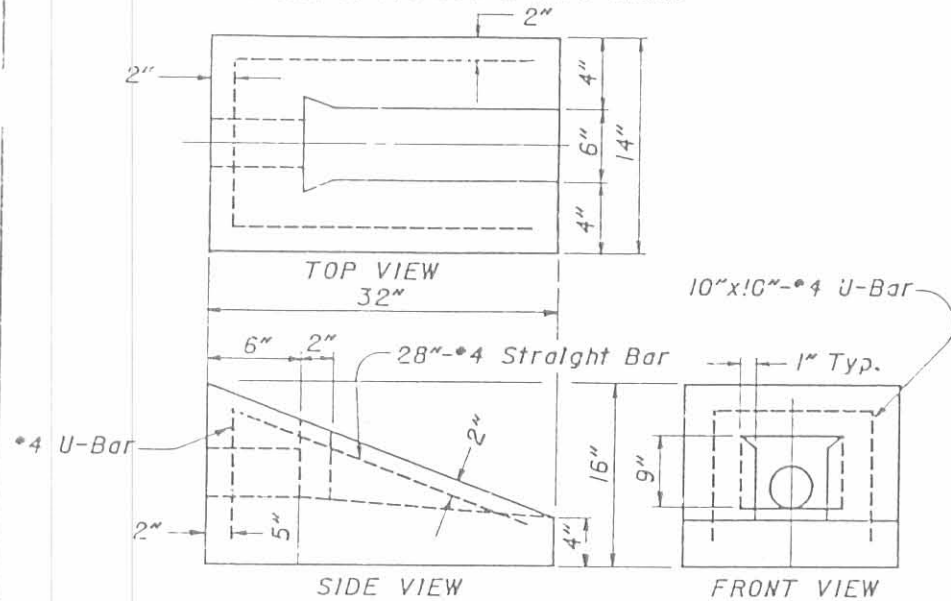
THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER FOR THE REMOVAL AND REPLACEMENT OF SOFT SUBGRADE AND EMBANKMENT FOUNDATION MATERIAL:

LOG-CR8-0.84  
ITEM 203 EXCAVATION NOT INCL. EMBANKMENT CONSTRUCT. 550 C.Y.  
ITEM 203 EMBANKMENT 550 C.Y.

LOG-TR131-0.06  
ITEM 203 EXCAVATION NOT INCL. EMBANKMENT CONSTRUCT. 270 C.Y.  
ITEM 203 EMBANKMENT 270 C.Y.

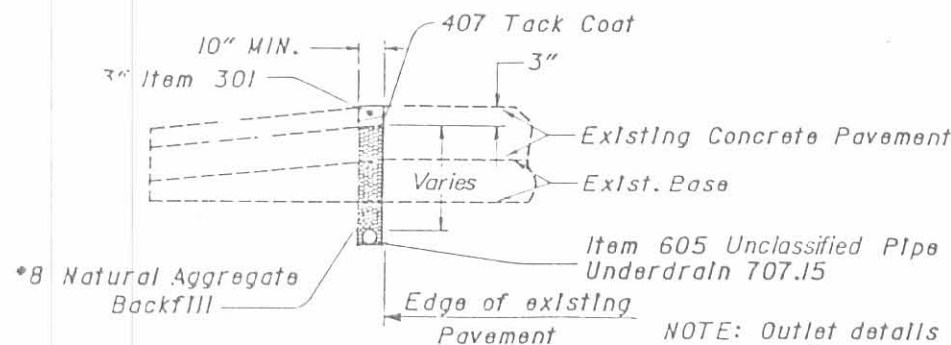
# ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

The Concrete outlet shall meet the requirements of Item 604 in the Construction & Materials Specifications. Payment shall be made on an Each Basis. Payment shall include the cost of the Sod & Wire Cloth.



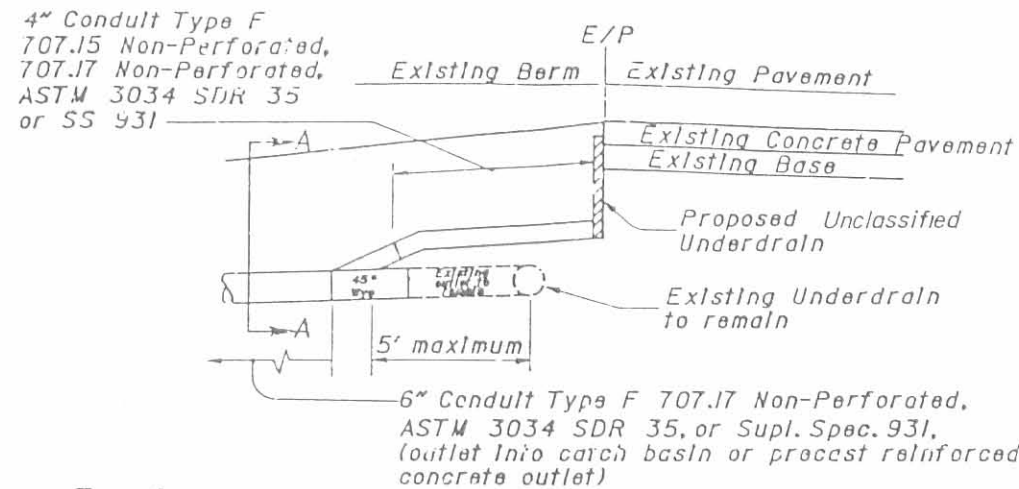
NOTE: The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

## PIPE UNDERDRAIN SYSTEM

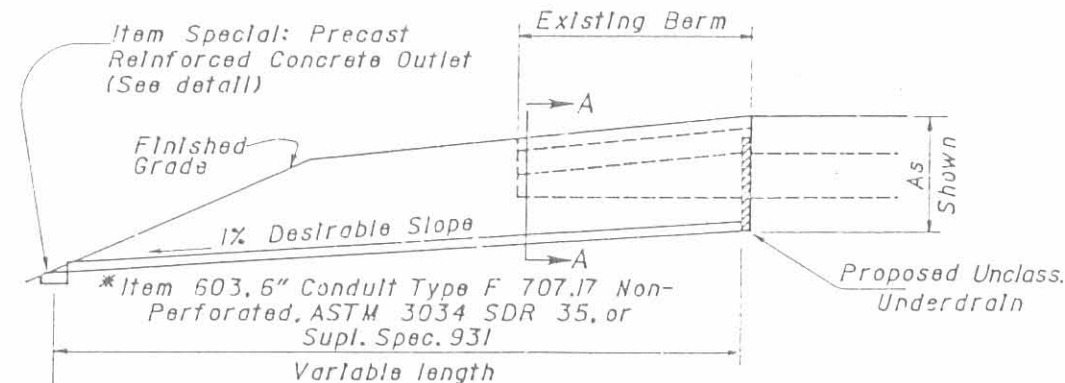


NOTE: Outlet details to be the same as shown above.

## OUTLET DETAILS

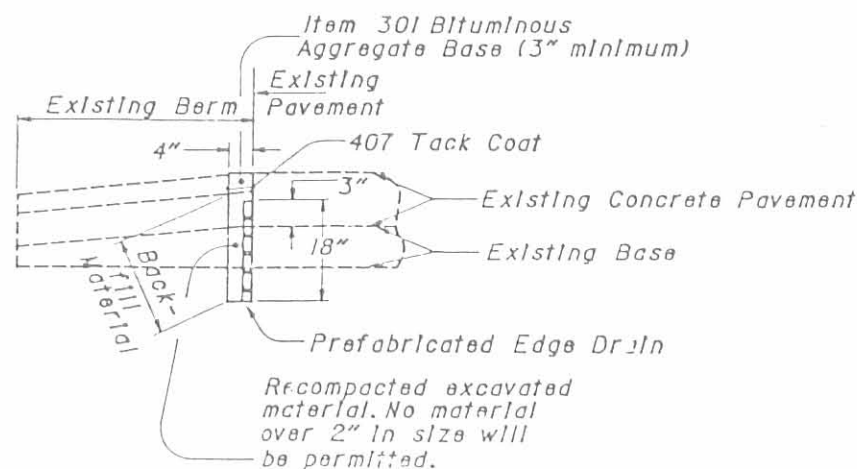


NOTE: The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.



NOTE: For underdrain outlets into catch basins the above Type F Conduit shall be used entirely between the underdrain & catch basin.  
\* If prefabricated edge drain is used then 4" Conduit shall be used for the outlet in lieu of 6" Conduit. The 4" Conduit shall be paid at the unit price bid for the 6" Conduit.

## PREFABRICATED EDGE DRAIN SYSTEM



LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06

AREA	STATE	PROJECT	5
5	OHIO		34

DESCRIPTION: The Item shall consist of furnishing and installing a pipe underdrain system or prefabricated edge drain system in accordance with the specifications, details as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall be a pipe underdrain system per Item 605 or a prefabricated edge drain system meeting the following requirements. The prefabricated edge drain shall consist of a polymeric core with a minimum thickness of one inch wrapped in fabric meeting 712.09 Type A. The drain shall be flexible, rectangular in shape and of hollow construction. The core material shall be resistant to petroleum based chemicals, natural occurring soil chemicals, and road de-icing agents.

The core shall provide a minimum of 100 square inches unobstructed (one side only) drainage area per foot of width. Side walls of the core shall provide at least 5% open area to permit unobstructed flow through the filter and wall to the core.

The prefabricated edge drain shall have a minimum compressive strength of 6000 pounds per square foot with a maximum 20% compression in a parallel plate compression test (ASTM-D 695). The minimum (single side) core flow capacity shall be 10 gallons per minute per foot of width for a 0.1 gradient at 10 pounds per square inch bladder load per ASTM D 4716

In lieu of the above requirements the following products are acceptable prefabricated edge drains:

- Hydraway Drain by Monsanto Company
- PDS 25 by Prodrain Systems
- Strip Drain 100 by Contech Construction Products, Inc.
- AdvanEDGE by Advanced Drainage Systems, Inc.

CONSTRUCTION: The prefabricated edge drain shall be installed in a trench as shown on the plans and in accordance with the manufacturer's recommendations. The contractor has the option to backfill the trench with the excavated material or No. 8 natural aggregate. If the excavated material is used for the backfill it shall be placed in three (3) lifts minimum with each lift of un-compacted material not exceeding 8" in thickness. Each lift shall be compacted to 95% of the maximum dry weight density as determined by AASHTO T99. If No. 8 natural aggregate is used it shall be placed in one (1) or more lifts with a vibratory compactor run over the final lift to consolidate the aggregate prior to placing the asphalt plug. The first layer of the backfill material shall be placed simultaneously with the trenching operation to hold the edge drain flush against the trench wall.

The prefabricated edge drain shall be spliced as required prior to placement in the trench, using material furnished by the manufacturer and in accordance with the manufacturer's directions. All material required for the splices will be supplied by the manufacturer, but any equipment required shall be furnished by the Contractor.

The underdrain outlets shall be placed in accordance with Item 603 as directed by the Engineer, using outlet fittings. The manufacturer shall supply outlet fittings which will make the transition between the prefabricated edge drain and the outlet pipe. Fittings shall be installed as recommended by the manufacturer.

The outlets for the underdrain system shall be constructed as soon as possible after placement of the underdrain. The outlets on crack & seal projects shall be in place and functional prior to cracking and sealing the existing pavement.

METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

BASIS OF PAYMENT: Work completed and accepted under this Item and measured will be paid for at the contract unit price bid per linear foot for Item 605 - Unclass. Underdrain, as per plan. Which price shall be full compensation for excavation and backfill; removing and disposing all surplus excavation in accordance with 203; for furnishing materials, including material for splices; outlet fittings and Item 301; for all labor, tools equipment, and incidentals necessary to complete the work.

ITEM 605- UNCLASS. UNDERDRAIN,  
AS PER PLAN

# PAVEMENT CALCULATIONS

REGION	STATE	PROJECT
5	OHIO	

6  
34

LOGAN COUNTY  
LOG-CR8-0.84  
LOG-TR131-0.06

LOCATION	203	301	304
Station to Station	L.F.	Subgrade Compaction	S.Y.
50.00 to 65+05.00 CR8	55.00	55.00 x 19.0 Ave x 1/9	116
65.00 to 68+39.41 CR8	334.41	334.41 x 20.0 x 1/9	743
68.39.41 to 68+59.41 CR8	20.00	20.00 x 28.0 x 1/9	62.2
69+12.59 to 69+32.59 CR8	20.00	20.00 x 28.0 x 1/9	62.2
69+32.59 to 71+95.00 CR8	262.41	262.41 x 20.0 x 1/9	583
71+95.00 to 72+50.00 CR8	55.00	55.00 x 19.0 Ave x 1/9	116
1+25.00 to 3+50.00 TR131	225.00	225.00 x 17.8 Ave x 1/9	445
3+50.00 to 3+66.42 TR131	16.42	16.42 x 20.0 x 1/9	36.5
3+66.42 to 3+86.42 TR131	20.00	20.00 x 28.0 x 1/9	62.2
4+35.58 to 4+55.58 TR131	20.00	20.00 x 28.0 x 1/9	62.2
4+55.58 to 6+37.50 TR131	181.92	181.92 x 20.0 x 1/9	404
6+37.50 to 7+75.00 TR131	137.50	137.50 x 18.5 Ave x 1/9	283
TOTALS TO GENERAL SUMMARY			2575

LOCATION	402	403	404
Station to Station	L.F.	Asphalt Concrete, AC-20	C.Y.
64+50.00 to 65+05.00 CR8	55.00	55.00 x 19.0 Ave x 1.75/12 x 1/27	5.64
65+05.00 to 68+39.41 CR8	334.41	334.41 x 20.0 x 1.75/12 x 1/27	36.1
68+39.41 to 68+59.41 CR8	20.00	20.00 x 28.0 x 2.25 Ave/12 x 1/27	3.89
69+12.59 to 69+32.59 CR8	20.00	20.00 x 28.0 x 2.25 Ave/12 x 1/27	3.89
69+32.59 to 71+95.00 CR8	262.41	262.41 x 20.0 x 1.75/12 x 1/27	28.3
71+95.00 to 72+50.00 CR8	55.00	55.00 x 19.0 Ave x 1.75/12 x 1/27	5.64
1+25.00 to 3+50.00 TR131	225.00	225.00 x 17.8 Ave x 1.75/12 x 1/27	21.6
3+50.00 to 3+66.42 TR131	16.42	16.42 x 20.0 x 1.75/12 x 1/27	1.77
3+66.42 to 3+86.42 TR131	20.00	20.00 x 28.0 x 2.25 Ave/12 x 1/27	3.89
4+35.58 to 4+55.58 TR131	20.00	20.00 x 28.0 x 2.25 Ave/12 x 1/27	3.89
4+55.58 to 6+37.50 TR131	181.92	181.92 x 20.0 x 1.75/12 x 1/27	19.7
6+37.50 to 7+75.00 TR131	137.50	137.50 x 18.5 Ave x 1.75/12 x 1/27	13.7
TOTALS TO GENERAL SUMMARY			135

LOCATION	407	408	611
Station to Station	L.F.	Tack Coat	Gal.
64+50.00 to 65+05.00 CR8	55.00		
65+05.00 to 68+39.41 CR8	334.41		
68+39.41 to 68+59.41 CR8	20.00	20.00 x 28.0 x 1/9 x 0.075	4.67
69+12.59 to 69+32.59 CR8	20.00	20.00 x 28.0 x 1/9 x 0.075	4.67
69+32.59 to 71+95.00 CR8	262.41		
71+95.00 to 72+50.00 CR8	55.00		
1+25.00 to 3+50.00 TR131	225.00		
3+50.00 to 3+66.42 TR131	16.42		
3+66.42 to 3+86.42 TR131	20.00	20.00 x 28.0 x 1/9 x 0.075	4.67
4+35.58 to 4+55.58 TR131	20.00	20.00 x 28.0 x 1/9 x 0.075	4.67
4+55.58 to 6+37.50 TR131	181.92		
6+37.50 to 7+75.00 TR131	137.50		
TOTALS TO GENERAL SUMMARY			19

LOCATION	605
Station to Station	L.F.
64+50.00 to 68+39.41 CR8	389.41
1+25.00 to 3+66.42 TR131	241.42
TOTALS TO GENERAL SUMMARY	228

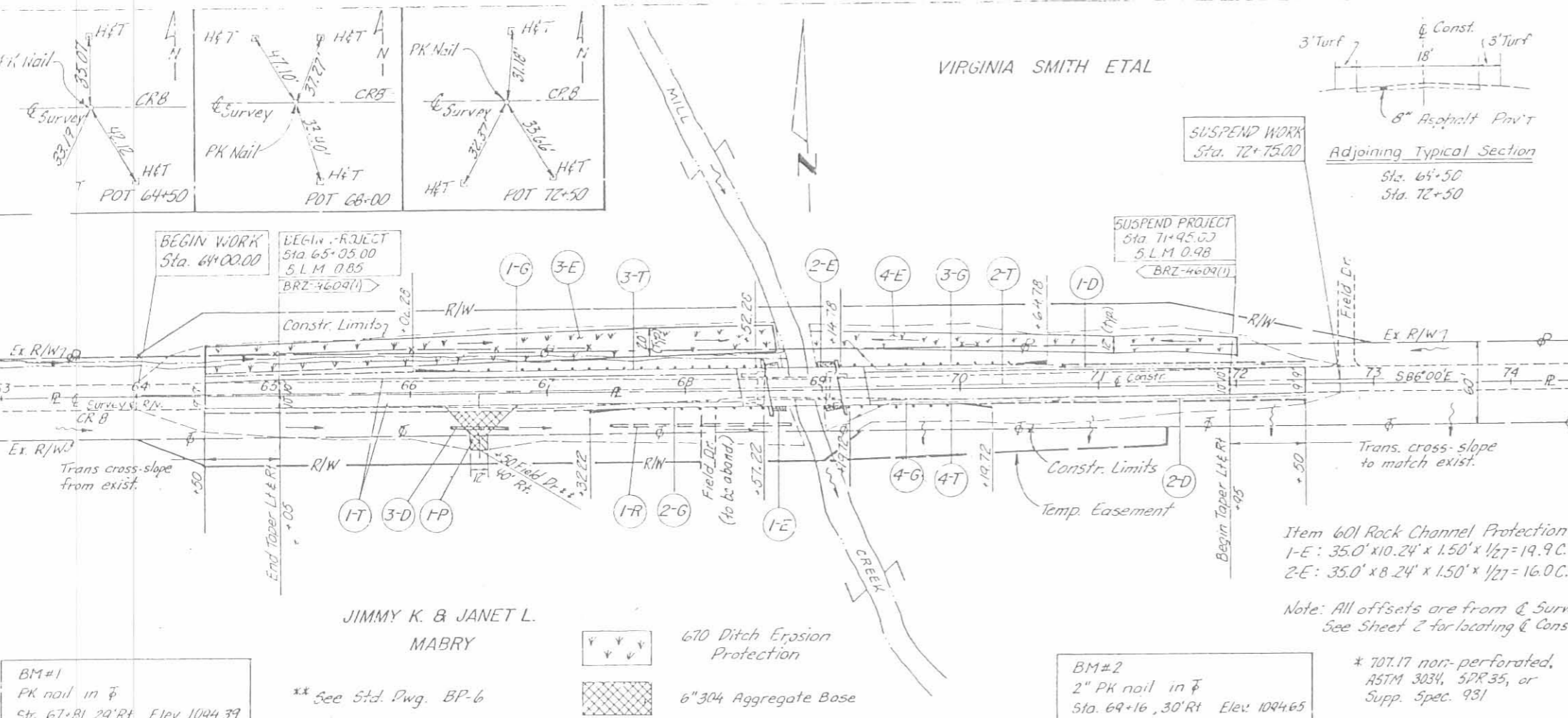
STATION TO STATION	EARTHWORK QUANTITY SUB-SUMMARY		
	203	659	
	Excavation	Embankment	Seeding and Mulching
	C.Y.	C.Y.	S.Y.
64+00 to 66+50 CR8	426	209	1453
67+00 to 69+50 CR8	725	1261	2094
70+00 to 72+50 CR8	414	801	1680
0+00 to 3+00 TR131	147	109	528
3+50 to 6+50 TR131	296	774	1841
7+00 to 10+00 TR131	102	59	631
Add for Contingency C.R.B.	550	550	
Add for Contingency T.R. 131	270	270	
Subtract for Ditch Protection CRB			-1333
Total to General Summary	2930	4033	6994

ITEM 659 - Commercial Fertilizer  
(6994+1333) S.Y. Seeding x 9 x 20#/1000 x 1/2000 = 0.75 Ton

## GENERAL SUMMARY

SHEET NO.				ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
4	6	7	8					
LUMP				201	11000	LUMP		CLEARING AND GRUBBING
				202	35100	156	L.F.	PIPE REMOVED, 24" AND UNDER
	2930			203	12000	2930	C.Y.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
	4033			203	20000	4033	C.Y.	EMBANKMENT
	2975			203	50000	2975	S.Y.	SUBGRADE COMPACTION
								ROADWAY
								CLEARING AND GRUBBING
								PIPE REMOVED, 24" AND UNDER
								EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
								EMBANKMENT
								SUBGRADE COMPACTION
								GUARDRAIL, TYPE 5
								ANCHOR ASSEMBLY, TYPE A
								BRIDGE TERMINAL ASSEMBLY, TYPE B
								WATER
								CALCIUM CHLORIDE
								EROSION CONTROL
								STRAW OR HAY BALES
								ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER
								SEEDING AND MULCHING
								COMMERCIAL FERTILIZER
								WATER
								DITCH EROSION PROTECTION
								DRAINAGE
								6" CONDUIT, TYPE E
								6" CONDUIT, TYPE F 707.17 NON-PERFORATED, ASTM 3034 SDR 35, OR SUPP. SPEC. 931
								8" CONDUIT, TYPE E
								8" CONDUIT, TYPE F
								12" CONDUIT, TYPE D
								PRECAST REINFORCED CONCRETE OUTLET
								AGGREGATE DRAIN
								6" UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN
								PAVEMENT
								BITUMINOUS AGGREGATE BASE, AC-20
								AGGREGATE BASE, AS PER PLAN
								ASPHALT CONCRETE, AC-20
								ASPHALT CONCRETE, AC-20
								ASPHALT CONCRETE, AC-20
								TACK COAT
								BITUMINOUS PRIME COAT
								REINFORCED CONCRETE APPROACH SLAB (T=13")
								TRAFFIC CONTROL
								TEMPORARY CENTER LINE, CLASS II
								EDGE LINE
								CENTER LINE
								BARRIER REFLECTOR, TYPE A
								STRUCTURES OVER 20 FOOT SPAN
								SEE SHEET 17 FOR QUANTITIES FOR BRIDGE NO. LOG-CR8-0092
								SEE SHEET 25 FOR QUANTITIES FOR BRIDGE NO. LOG-TR 31-0007
								MAINTAINING TRAFFIC
								FIELD OFFICE
								CONSTRUCTION LAYOUT STAKES
								MOBILIZATION

VIRGINIA SMITH ETAL



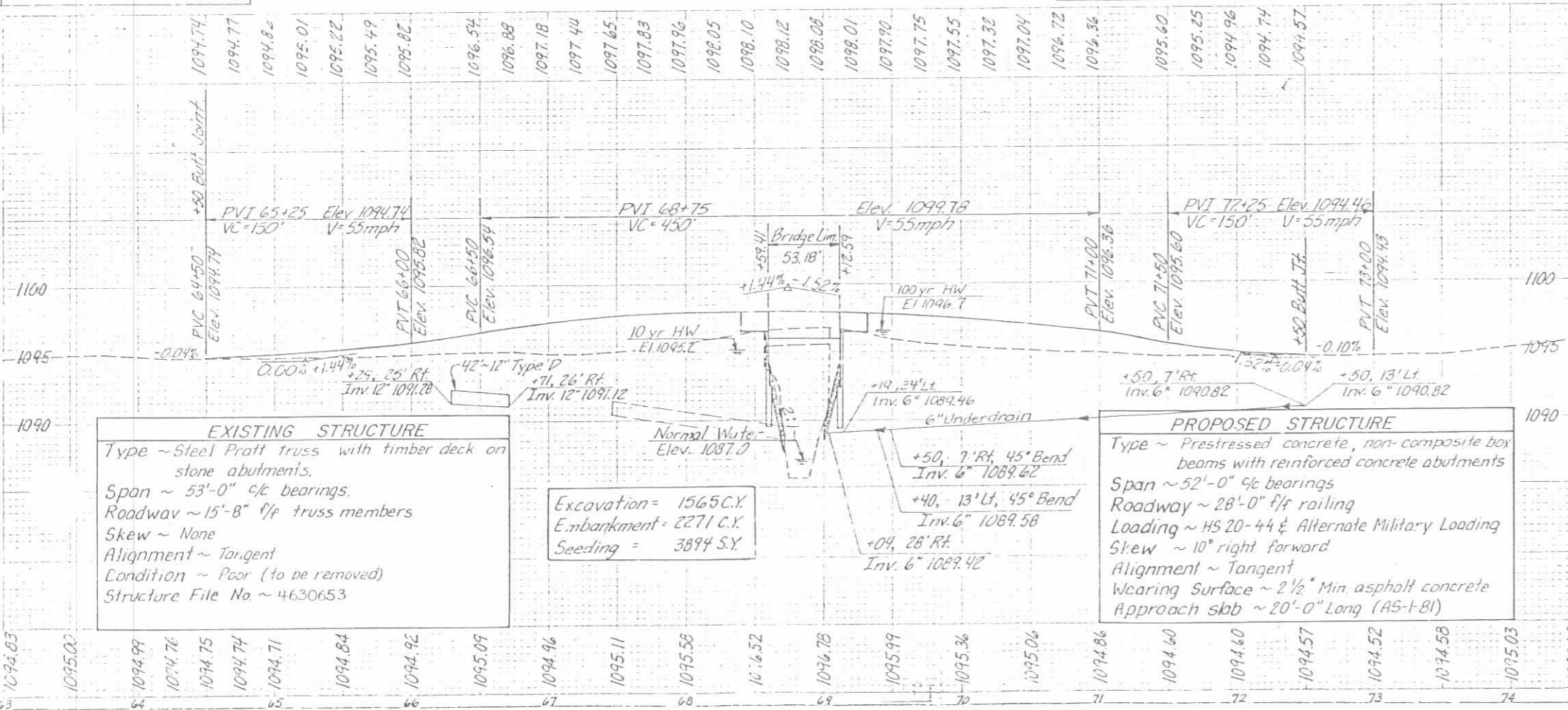
JIMMY K. & JANET L.  
MABRY

BM#1  
PK nail in  $\bar{\phi}$   
Sta. 67+81.29' Rt Elev. 1094.39

BM#2  
2" PK nail in  $\bar{\phi}$   
Sta. 69+16.30' Rt Elev. 1094.65

670 Ditch Erosion Protection  
6" 304 Aggregate Base

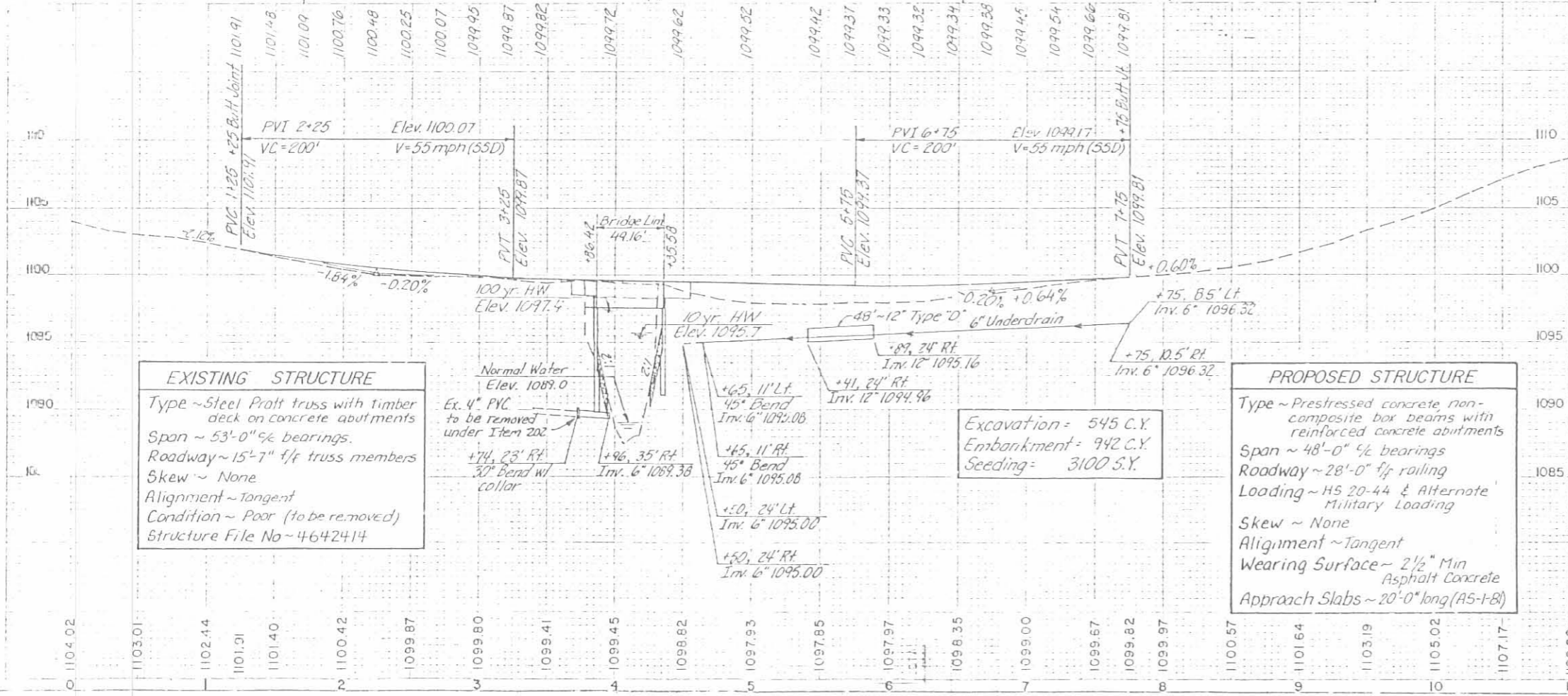
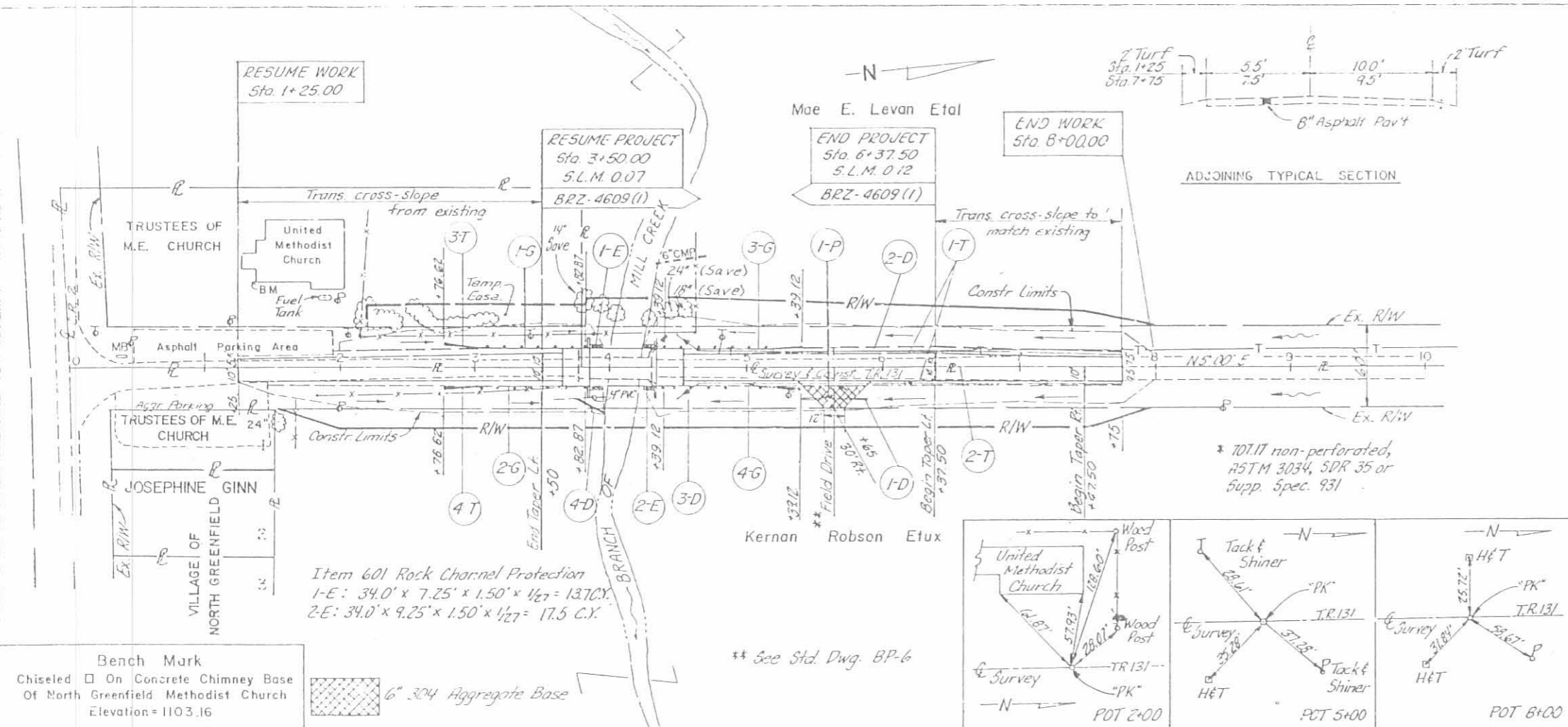
\*\* See Std. Dwg. BP-6



**EXISTING STRUCTURE**  
Type ~ Steel Pratt truss with timber deck on stone abutments.  
Span ~ 53'-0" c/c bearings.  
Roadway ~ 15'-8" f/f truss members  
Skew ~ None  
Alignment ~ Tangent  
Condition ~ Poor (to be removed)  
Structure File No. ~ 4630653

**PROPOSED STRUCTURE**  
Type ~ Prestressed concrete, non-composite box beams with reinforced concrete abutments  
Span ~ 52'-0" c/c bearings  
Roadway ~ 28'-0" f/f railing  
Loading ~ HS 20-44 & Alternate Military Loading  
Skew ~ 10° right forward  
Alignment ~ Tangent  
Wearing Surface ~ 2 1/2" Min. asphalt concrete  
Approach sbb ~ 20'-0" Long (AS-1-B1)

REF NO	STATION TO STATION	SIDE	QUANTITY	UNIT	ESTIMATED QUANTITIES
1-P	66+50	Rt	11		
1-R	67+46 to 68+78				
1-G	66+00.28 to 68+02.28	Lt	1		
2-G	67+32.22 to 68+57.22	Rt	1		
3-G	69+14.78 to 70+64.78	Lt	1		
4-G	69+19.72 to 70+19.72	Rt	1		
1-D	69+19 to 72+50	Lt			
2-D	69+04 to 72+50	Rt			
3-D	66+29 to 66+71				
1-T	64+50 to 72+50	Lt			
2-T	64+50 to 72+50	Rt			
3-T	66+00.28 to 70+64.78	Lt			
4-T	67+32.22 to 70+19.72	Rt			
1-E	68+62.76 to 68+71	Lt			
2-E	69+03 to 69+11.24	Rt			
3-E	61+50 to 68+65	Lt			
4-E	59+92 to 72+00	Rt			
601			36	525.00	4
602			4	44	4
603			4	44	4
604			4	44	4
605			4	44	4
606			4	44	4
607			4	44	4
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695			4	44	4
696			4	44	4
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699			4	44	4
700			4	44	4
TOTALS			11	132	



REF. NO.	STATION TO STATION	SIDE	QUANTITIES	UNIT	AMOUNT
1-P	5+65	RT	9		
1-E	3+87.5 to 3+95				
2-E	4+25 to 4+34.25		14		
1-G	2+76.62 to 3+52.87	LT			
2-G	4+50 to 7+75	RT			
3-G	4+39.12 to 5+39.12	LT			
4-G	3+74 to 3+96	RT			
1-T	1+25 to 7+75	LT			
2-T	2+76.62 to 5+39.12	LT			
3-T	2+76.62 to 5+39.12	LT			
4-T	2+76.62 to 5+39.12	LT			
601			14	C.Y.	
602			18	C.Y.	
603			24	C.Y.	
604			9	C.Y.	
605			310	LF	
606			81.25	Each	
607			2500	Each	
608			2500	Each	
609			48	LF	
610			20	LF	
611			25	LF	
612			20	LF	
613			25	LF	
614			20	LF	
615			25	LF	
616			20	LF	
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